

Remarks

The Examiner made the following remarks in the outstanding Office Action:

- The Specification is objected to due to informalities.
- Claims 8 and 13 are objected to due to informalities.
- Claims 1-3 and 7 are rejected under 35 U.S.C. §103(a) as being unpatentable over United States Patent No. 5,497,419 issued in the name of Brian R. Hill, (hereinafter "Hill"), in view of United States Patent No. 6,389,340 issued in the name of Gary A. Rayner, (hereinafter "Rayner"), in view of United States Patent No. 5,408,330 issued in the names of Squicciarini et al., (hereinafter "Squicciarini").
- Claims 4-5, 8-10, 12, and 15 are rejected under 35 U.S.C. §103(a) as being unpatentable over the combination of Hill, Rayner, Squicciarini, and United States Patent No. 5,689,442 issued in the names of Swanson et al., (hereinafter "Swanson").
- Claim 6 is rejected under 35 U.S.C. §103(a) as being unpatentable over the combination of Hill, Rayner, Squicciarini, and United States Patent No. 6,518,881 issued in the name of David A. Monroe, (hereinafter "Monroe").

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- Claim 11 is rejected under 35 U.S.C. §103(a) as being unpatentable over the combination of Hill, Rayner, Squicciarini, Swanson, and Monroe.
- Claims 13-14 are rejected under 35 U.S.C. §103(a) as being unpatentable over the combination of Hill, Rayner, Squicciarini, Swanson, and United States Patent No. 6,606,115 issued in the names of Alicandro et al., (hereinafter "Alicandro").
- Claims 16-19 are rejected under 35 U.S.C. §103(a) as being unpatentable over the combination of Hill, Rayner, Squicciarini, Swanson, International Publication WO 96/26600 published in the name of Avid Technology, Inc., (hereinafter "Avid"), and United States Patent No. 5,225,768 issued in the name of Samuel H. Reaves, III, (hereinafter "Reaves").

Claims 1-19, including independent claims 1, 8, and 16, were originally presented for examination. Claims 1, 8, and 13 have been amended. Claims 20-26, which include independent claims 20, 23, and 25, have been added by way of the present amendment. Claims 1-26, which include independent claims 1, 8, 16, 20, 23, and 25, are currently pending. No new matter has been added by way of the present Response. Favorable reconsideration of the present Response as currently constituted is respectfully requested.

Informalities in the Specification

In the Specification, the paragraph beginning on page 3, line 9 and ending on page 3, line 28, which was published as paragraph 7, and the paragraph beginning on page 5, line 23 and ending on page 6, line 11, which was published as paragraph 23, have been appropriately amended to address the informalities raised by the Examiner. Accordingly, Applicant respectfully requests withdrawal of the outstanding objections to the Specification.

Informalities in the Claims

In the Claims, claims 8 and 13 have been appropriately amended to correct the informalities raised by the Examiner. Accordingly, Applicant respectfully requests withdrawal of the outstanding Claim Objections.

Rejection of Claims 1-3 and 7 Under 35 U.S.C. §103(a)

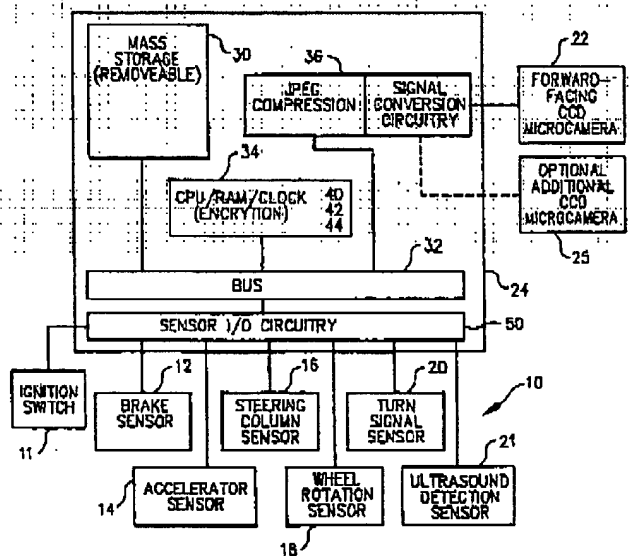
Claims 1-3 and 7 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Hill in view of Rayner in view of Squicciarini. Applicant respectfully submits that the combination of Hill, Rayner, and Squicciarini does not suggest the present invention. The present invention, as defined by independent claim 1, is directed to an in-car video recording apparatus having a display means for displaying status and control information. In particular, the in-car video recording apparatus includes a

compression circuit for compressing composite live digital video data which is merged video data and status data. Applicant respectfully submits that the combination of Hill, Rayner, and Squicciarini neither discloses nor suggests a compression circuit for compressing composite live digital video data which is merged video data and status data.

Hill discloses a method and apparatus for recording sensor data where only video signals are compressed. Hill does not compress signals from

sensors. With reference to figure 1, a black box or data recorder 10 includes a recorder 24 that receives signals from sensors 11, 12, 14, 16, 18, and 20-21 through a sensor I/O circuit 50 and a bus 32. The sensors may be brake sensors, accelerator sensors, steering column

FIG. 1



sensors, wheel rotation sensors, turn signal sensors, ultrasound detection sensors, or inputs from a GPS receiver. The recorder 24 also receives video signals from a CCD microcamera 22 through a signal conversion circuit 36 which compresses the data before

forwarding the compressed data to a signal processing circuit 34, via a bus 32. At the signal processing circuit 34, the compressed data is mixed with the uncompressed sensor data before encryption. In accordance with the black box arrangement of Hill, the resulting processed digital signals are recorded on a removable mass storage unit 30 which may be removed and played in a separate playback unit 142 as illustrated in figure 6.

Applicant respectfully submits that the Examiner has mischaracterized Hill. The Examiner indicates that Hill discloses a compression circuit that compresses composite live digital video data, i.e., both video data and status data. Hill only compresses the video signal, however, as explained by the following excerpt:

The compression circuit compresses the video signal. The signal processing circuit combines the compressed video signal and the signals from the one or more sensors and produces a digital signal therefrom. Emphasis added. Column 3, lines 2-6.

Hill reiterates the operation of the signal conversion circuit 36 in the following paragraph:

In addition, the signal conversion circuit 36 compresses the highly redundant video signals from the CCD microcamera 22 and produces therefrom a compressed digital signal that it transfers to the bus 32. The compression operation is performed by hardware in the signal conversion circuit 36. This hardware conventionally takes the form of an application-specific integrated circuit (ASIC) that performs JPEG compression. Alternatively, and in some applications, it may be preferable to perform compression of the video data through other hardware means, such as an ASIC that performs MPEG or other well-known compression techniques. Specifically, **the compression portion of the conversion circuit 36 compresses data received from the CCD**

microcamera 22, as well as any of the optional additional CCD microcameras 25 that may be in use in the specific preferred embodiment that is suitable for a particular application. Emphasis added. Column 6, lines 51-67.

Therefore, Hill compresses only the video signal and then combines the compressed video signal with the uncompressed sensor signals at signal processing circuit 34 as described in column 7, lines 1-36. Contrary to Applicant's claim 1, Hill does not disclose a compression circuit that compresses both video data and status data. Accordingly, Applicant respectfully submits that Hill neither discloses nor suggests a compression circuit as recited in claim 1.

Applicant respectfully submits that neither Rayner nor Squicciarini cure the deficiencies of Hill. Rayner and Squicciarini are secondary references relied upon by the Examiner for disclosure of a display means and related circuitry for displaying control information. Please see page 4, lines 15-19 of the Office Action. As such, Rayner and Squicciarini were not selected by the Examiner as disclosing compression circuitry and, incidently, neither Rayner nor Squicciarini disclose compression circuitry as recited by Applicant in claim 1.

More specifically, Rayner discloses a vehicle data recorder or black box recorder for capturing video imagery in response to a triggering event. With reference to figure 3, a black box device 10 includes cameras 22 and 24 as well as sensors such as G-force

sensor 40, a microphone 44, and a GPS receiver 45. Under the control of a CPU 34, an A/D converter 46 multiplexes and digitizes the input signals provided by these cameras, sensors and devices and stores the digitized sensor data in memory 56. Accordingly, Rayner does not disclose compression circuitry.

Squicciarini discloses a video incident capture system for law enforcement vehicles. With reference to figure 1, a video recorder 12 records the output of a video camera 10 on a VHS tape. Interposed between the video camera 10 and the video recorder 12 is an On Screen Display ("OSD") circuit 12 which superimposes specified information, such as "target speed," onto the video signals generated by the video camera 10. The superimposed information is recorded on the VHS tape and displayed on a monitor 14. Accordingly, Squicciarini does not disclose compression circuitry.

Therefore, neither Rayner nor Squicciarini cure the deficiencies of Hill. A compression circuit that compresses composite live digital video data, i.e., both video data and status data is neither disclosed nor suggested by Hill, Rayner, and Squicciarini, whether considered alone or in combination. Applicant respectfully requests withdrawal of the outstanding \$103(a) rejection and allowance of claim 1.

Claims 2-3 and 7 depend from claim 1 and add further limitations. Accordingly, Applicant respectfully requests

withdrawal of the outstanding §103(a) rejection and allowance of claims 2-3 and 7.

Rejection of Claims 4-5, 8-10, 12, and 15 Under 35 U.S.C. §103(a)

Claims 4-5, 8-10, 12, and 15 stand rejected under 35 U.S.C. §103(a) as being unpatentable over the combination of Hill, Rayner, Squicciarini, and Swanson. Claims 4-5 depend from claim 1 and add further limitations while incorporating the limitations directed to a compression circuit that compresses composite live digital video data, i.e., both video data and status data. Similarly, independent claim 8 includes limitations directed to a compression circuit for compressing composite live digital video data. Claims 9-10, 12, and 15 depend from claim 8 and add further limitations while incorporating the compression circuit limitation of claim 8.

As previously discussed in detail hereinabove, the combination of Hill, Rayner, and Squicciarini neither discloses nor suggests a compression circuit for compressing composite live digital video data. Applicant respectfully submits Swanson does not cure these deficiencies. The Examiner did not rely on Swanson as disclosing a compression circuit and Swanson neither discloses nor suggests a compression circuit for compressing composite live digital video data.

Swanson discloses an event surveillance system that is operable to capture images and sounds concerning events for storage

in a random access data store. Swanson does not disclose or suggest composite live digital data as Swanson does not capture status data and merge the captured status data with output from a video camera. Rather, Swanson only captures visual and audio data.

With reference to figure 1, as described in column 11, lines 26-47, captured images 28 are compressed by the data compression functionality 84 using a JPEG or MPEG compression algorithm while sounds 36 are separately compressed by the data compression functionality 84. Accordingly, Swanson does not disclose or suggest compressing composite live digital video data which comprises both video data and status data.

Applicant respectfully submits that Swanson does not cure the deficiencies of Hill, Rayner, and Squicciarini. Further, the combination of Hill, Rayner, Squicciarini, and Swanson does not disclose or suggest a compression circuit for compressing composite live digital video data, i.e., both video data and status data. Accordingly, Applicant respectfully requests withdrawal of the outstanding §103(a) rejection and allowance of claims 4-5, 8-10, 12, and 15.

Rejection of Claim 6 Under 35 U.S.C. §103(a)

Claim 6 stands rejected under 35 U.S.C. §103(a) as being unpatentable over the combination of Hill, Rayner, Squicciarini, and Monroe. Claim 6 depends from claim 1 and adds further

limitations while incorporating the limitations directed to a compression circuit that compresses composite live digital video data, i.e., both video data and status data. As previously discussed in detail hereinabove, the combination of Hill, Rayner, and Squicciarini neither discloses nor suggests a compression circuit for compressing composite live digital video data. Applicant respectfully submits that Monroe does not cure these deficiencies. The Examiner did not rely on Monroe as disclosing a compression circuit and Monroe neither discloses nor suggests a compression circuit for compressing composite live digital video data. Monroe discloses a digital communication system for law enforcement use that employs a wireless video camera in conjunction with a mobile data terminal or MDT. The MDT provides audio, video, graphic, text and positioning communication capability and incorporates scanners and readers such as bar code readers, magnetic strip readers and fingerprint scanners to permit enhanced on site investigation and investigation support. Accordingly, Monroe does not disclose or suggest compressing composite live digital which comprises both video data and status data.

Applicant respectfully submits that Monroe does not cure the deficiencies of Hill, Rayner, and Squicciarini. Further, the combination of Hill, Rayner, Squicciarini, and Monroe does not disclose or suggest a compression circuit for compressing composite live digital video data, i.e., both video data and status data.

Accordingly, Applicant respectfully requests withdrawal of the outstanding §103(a) rejection and allowance of claim 6.

Rejection of Claim 11 Under 35 U.S.C. §103(a)

Claim 11 stands rejected under 35 U.S.C. §103(a) as being unpatentable over the combination of Hill, Rayner, Squicciarini, Swanson, and Monroe. Claim 11 depends from claim 8 and adds further limitations while incorporating the limitations directed to a compression circuit that compresses composite live digital video data, i.e., both video data and status data. Further, as discussed in detail hereinabove, the combination of Hill, Rayner, Squicciarini, and Monroe neither discloses nor suggests a compression circuit for compressing composite live digital video data, i.e., both video data and status data. Accordingly, Applicant respectfully requests withdrawal of the outstanding §103(a) rejection and allowance of claim 11.

Rejection of Claims 13-14 Under 35 U.S.C. §103(a)

Claims 13-14 stand rejected under 35 U.S.C. §103(a) as being unpatentable over the combination of Hill, Rayner, Squicciarini, Swanson, and Alicandro. Claims 13-14 depend from claim 8 and add further limitations while incorporating the limitations directed to the compression circuit that compresses composite live digital video data, i.e., both video data and status data. As discussed in

detail hereinabove, the combination of Hill, Rayner, Squicciarini, and Swanson neither discloses nor suggests a compression circuit for compressing composite live digital video data. Applicant respectfully submits that Alicandro does not cure these deficiencies. The Examiner did not rely on Alicandro as disclosing a compression circuit and Alicandro neither discloses nor suggests a compression circuit for compressing composite live digital video data.

Alicandro discloses a method and apparatus for monitoring the thermal characteristics of an image and, in particular, for inspecting and monitoring the temperature profile exhibited by an object or scene. Accordingly, Alicandro does not disclose or suggest compressing composite live digital which comprises both video data and status data.

Applicant respectfully submits that Alicandro does not cure the deficiencies of Hill, Rayner, Squicciarini, and Swanson. Further, the combination of Hill, Rayner, Squicciarini, Swanson, and Alicandro does not disclose or suggest a compression circuit for compressing composite live digital video data, i.e., both video data and status data. Accordingly, Applicant respectfully requests withdrawal of the outstanding \$103(a) rejection and allowance of claims 13-14.

Rejection of Claims 16-19 Under 35 U.S.C. §103(a)

Claims 16-19 stand rejected under 35 U.S.C. §103(a) as being unpatentable over the combination of Hill, Rayner, Squicciarini, Swanson, Avid, and Reaves. Similar to independent claims 1 and 8, independent claim 16 and claims 17-19, which depend from claim 16, include limitations directed to the compression circuit that compresses composite live digital video data, i.e., both video data and status data. Further, as previously discussed, the combination of Hill, Rayner, Squicciarini, and Swanson neither discloses nor suggests a compression circuit for compressing composite live digital video data. Applicant respectfully submits that neither the addition of Avid nor Reaves cures these deficiencies. The Examiner did not rely on either Avid or Reaves as disclosing a compression circuit and neither Avid nor Reaves disclose or suggest a compression circuit for compressing composite live digital video data.

More specifically, Avid discloses a combined editing system and digital moving picture recording system that provides an editing interface having dedicated keys with adaptive functions. A textual display indicates the function currently associated with a particular key. Reaves discloses a field test instrument including a calibration generator for furnishing signals to tachographs, taximeters and other instruments used in fleet management systems. Accordingly, neither Avid nor Reaves discloses

or suggests a compression circuit for compressing composite live digital video data.

Applicant respectfully submits that neither Avid nor Reaves cure the deficiencies of Hill, Rayner, Squicciarini, and Swanson. Further, the combination of Hill, Rayner, Squicciarini, Swanson, Avid, and Reaves does not disclose or suggest a compression circuit for compressing composite live digital video data, i.e., both video data and status data. Accordingly, Applicant respectfully requests withdrawal of the outstanding \$103(a) rejection and allowance of claims 16-19.

New Claims

Claims 20-26 including independent claims 20, 23, and 25 have been added by way of the present Response. Each of the new independent claims incorporates limitations related to a compression circuit that compresses composite live digital video data, i.e., both video data and status data. Accordingly, Applicant respectfully submits that claims 20-26 are allowable over the cited art.

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Fee Statement

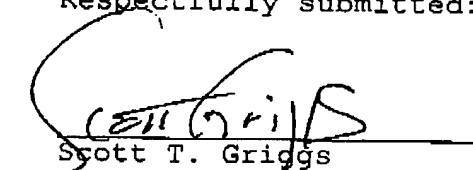
As amended, the application includes three excess independent claims and six claims in excess of 20. Applicant has enclosed Form PTO-2038 authorizing payment of \$450.00 to the cover the associated new claims fees. Accordingly, Applicant believes no additional fees are due for the filing of this Response. If any fees are due, however, please charge our deposit account (Account No. 50-3215).

Conclusion

In view of the foregoing, the Examiner is respectfully requested to reconsider and withdraw the outstanding objections and rejections and allow claims 1-26 presented for consideration herein. Accordingly, a favorable action in the form of a notice of allowance is respectfully requested. The Examiner is requested to call the undersigned for any reason that would advance the instant application to issue.

Dated this 20th day of May, 2005.

Respectfully submitted:



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